

Poor Man's Electronics Web Page

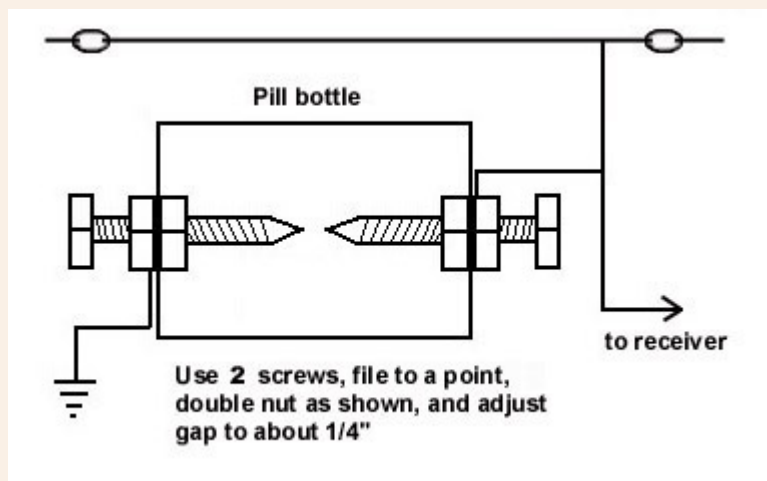
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Random Wire Antenna

Homebrew lightning arrestor:



**How to
make it**

Drill a hole in the bottom and in the lid of a 2-1/2" long by 1-1/4" dia. pill bottle. File the ends of two 3" #20



Lightning arrestor made from pill bottle

machine bolts into a sharp point. Then lock them in place on each end of the pill box with double nuts. Adjust the gap to about 1/4".

Strip about 3/4" of #14 copper stranded wire and loop it under the outside nut. Do this on both ends. The wires should connect to the antenna lead-in on one side and the ground lead wire on the other side.

Seal around the lid and connections with clear silicone caulking to make the unit water tight.

How it works

Electrical field intensity is a function of the amount of voltage divided by the surface area over which it acts. The diameter of the tip of the screws when filed down is quite small, so the surface area is quite small. Since field intensity is greater for a smaller area, it will take a relatively small voltage to raise the field intensity inside the pill bottle to the point where the air across the gap will ionize.

Once the air has ionized, it becomes a conductor; that is, a short circuit, and will bypass the static charges to ground.

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